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Agricultural Memorandum No 792

Distribution of Maize, 1973 - L P Smith

The HMSO Publication "Agricultural Statistics" gives details of the county acreages of maize in England and Wales.

Estimates of the accumulated temperature above 10°C, May to October, on an average county basis can be made from the agroclimatic area values by adjusting for average county height below 1000 ft (as given in Tech Bull 16). Within a county the range of average about this figure can be considerable. Arranging the counties in decreasing order of maize acreage per unit farmland area and grouping together counties with similar maize preference leads to the following results, the accumulated temperature average for the group being the weighted average of the counties concerned:

			Mean	Accumulated Temperatures
Group 1	36 - 20	acres per 10,000 acres farmland	23.8	837
2	19 - 13		15.1	801
3	12 - 7		8.1	795
4	7 - 4.5		5.4	722
5	4.5 - 3		3.7	773
6	3 - 2		2.5	692
7	2 - 1		1.4	710
8	1 - 0.1		0.6	667
9	Nil		0.0	640

The low accumulated temperature in Group 4 is due to the inclusion of the North Riding which has a county average of 630, but the maize is presumably grown in areas with a considerably higher value (c.750). The correlation between the accumulated temperature and the square root of the maize index is 0.94.

Details are given in the Appendix for the 1973 acreages.

Any comments or suggestions on this paper should be referred to the author.

Meteorological Office
Bracknell

March 1976

APPENDIX

County	Farm Area (1000)	Maize Area	Acres of maize per 10,000 acres	Acc Temp
Surrey	160	570	35.6	815
Suffolk	717	2027	28.3	825
Kent	605	1357	22.4	845
Hertford	260	560	21.5	830
Berkshire	301	615	20.4	810
Essex	647	1287	19.9	865
	2690	6416	23.8	837
Norfolk	980	1622	16.6	800
Hampshire	527	819	15.5	810
Sussex	554	753	13.6	810
Oxford	371	487	13.1	780
	2432	3681	15.1	801
Buckingham	334	306	9.2	795
Cambridge	449	383	8.5	840
Dorset	448	373	8.3	800
Worcester	320	260	8.1	770
Bedford	218	162	7.4	785
Somerset	776	572	7.4	780
	2545	2056	8.1	795
Gloucester	557	338	6.1	805
Northampton	472	274	5.8	755
North Riding	780	447	5.7	630
Rutland	81	41	5.1	745
Devon	1142	536	4.7	730
	3032	1636	5.4	722
Hereford	434	188	4.3	755
Huntingdon	256	108	4.2	835
Cheshire	426	167	3.9	770
Holland	239	92	3.8	790
Kesteven	394	137	3.5	770
Wiltshire	622	208	3.3	770
Warwick	427	143	3.3	755
	2798	1043	3.7	773
Leicester	418	119	2.8	750
Nottingham	378	104	2.8	770
East Riding	633	179	2.8	720
Lancashire	570	140	2.5	695
Cardigan	240	54	2.3	635
Caernarvon	120	25	2.1	625
Pembroke	277	55	2.0	700
Cumberland	486	97	2.0	580
	3122	773	2.5	692
Monmouth	194	37	1.9	755
Shropshire	678	99	1.5	695
Cornwall	630	90	1.4	760
Flint	109	12	1.1	730
Derby	383	44	1.1	710
Westmorland	208	21	1.0	560
	2202	303	1.4	710

County	Farm Area (1000)	Maize Area	Acres of maize per 10,000 acres	Acc Temp
Glamorgan	185	16	0.9	765
Anglesey	127	10	0.8	695
Stafford	485	40	0.8	695
West Riding	905	73	0.8	670
Lindsey	815	33	0.4	735
Denbigh	246	8	0.3	650
Northumberland	583	17	0.3	515
	3346	197	0.6	667
Carmarthen	371	0		665
Merioneth	94	0		640
Montgomery	271	0		680
Radnor	165	0		635
Brecon	166	0		665
Durham	335	0		570
	1402	0	0.0	640